Bellwork: 4/25/13

Simplify the following radical expressions:

1) $-4\sqrt{45x^7y^{18}z}$ 2) $5\sqrt[3]{-56x^9y^{12}z^{34}}$

$4,5$

$9 \cdot 5$

$3 \quad 3$

$-12\sqrt{5}$

(15) $\sqrt{36x^2y^3}$

$6 \cdot 6$

$6xy\sqrt{y}$

(16) $\sqrt{384x^4y^3}$

$16 \cdot 24$

$4 \cdot 4 \cdot 3$

2

$4 \cdot 4 \cdot 2 \cdot 2 \cdot 3$

$2 \cdot 2$

$8x^2y\sqrt{6y}$

Algebra II
Sect. 6-3

$2\sqrt{3} + 4\sqrt{3} = \boxed{6\sqrt{3}}$

$2x + 4x = 6x$

$\boxed{2\sqrt{3} + 2\sqrt{5}}$

$2x + 2y$

Obj: To add and subtract radical expressions

Sum or Difference of Radicals:

can only add + subtract if # under root is the same!

Combine like terms if possible

yes → Done ☺

no → 1. Simplify the radicand 2. Combine like terms

$2 + 3\sqrt{3} \neq 5\sqrt{3}$

$2 + 3x \neq 5x$

1.) $(1+\sqrt{3}) + (2-4\sqrt{3})$

$1+2 \quad 1\sqrt{3} - 4\sqrt{3}$

$\boxed{3 - 3\sqrt{3}}$

2.) $(3-7\sqrt{5}) - (2+3\sqrt{5})$

$3-2 \quad -7\sqrt{5} - 3\sqrt{5}$

$\boxed{1 - 10\sqrt{5}}$

Simplify all roots first!

3.) $(6+\sqrt{12})+(-7+\sqrt{75})$

$(6+2\sqrt{3})+(-7+5\sqrt{3})$

$6+-7 \quad 2\sqrt{3}+5\sqrt{3}$

$-1+7\sqrt{3}$

4.) $(-5-\sqrt{18})-(6+\sqrt{50})$

$(-5-3\sqrt{2})-(6+5\sqrt{2})$

$-5-6 \quad -3\sqrt{2}-5\sqrt{2}$

$-11-8\sqrt{2}$

5.) $(3-\sqrt{24})+(8-\sqrt{96})$

$(3-2\sqrt{6})+(8-4\sqrt{6})$

$3+8 \quad -2\sqrt{6}+-4\sqrt{6}$

$11-6\sqrt{6}$

6.) $(4+\sqrt{27})-(-15+\sqrt{48})$

$(4+3\sqrt{3})-(-15+4\sqrt{3})$

$4+-15 \quad 3\sqrt{3}-4\sqrt{3}$

$19-1\sqrt{3}$

HW - pgs 11 & 12

evens - all

(28) $-\sqrt{27}-3\sqrt{45}-\sqrt{20}+2\sqrt{45}$

$-3\sqrt{3}-9\sqrt{5}-2\sqrt{5}+6\sqrt{5}$

$-3\sqrt{3}-5\sqrt{5}$